



DEPARTMENT OF ENERGY

10 CFR Part 431

[EERE-2020-BT-STD-0007]

RIN 1904-AE63

Energy Conservation Program: Energy Conservation Standards for Electric Motors, Webinar and Availability of the Preliminary Technical Support Document

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Notification of a webinar and availability of preliminary technical support document.

SUMMARY: The U.S. Department of Energy (“DOE” or “the Department”) will hold a webinar to discuss and receive comments on the preliminary analysis it has conducted for purposes of evaluating energy conservation standards for electric motors. The meeting will cover the analytical framework, models, and tools used to evaluate potential standards for this equipment; the results of preliminary analyses performed for this equipment; the potential energy conservation standard levels derived from these analyses that may be considered for this equipment should proposed amendments be determined necessary; and any other issues relevant to the evaluation of energy conservation standards for electric motors. Written comments on these subjects from the public are encouraged.

DATES: *Meeting:* A webinar will be held on Tuesday, April 5, 2022, from 1:00 p.m. to 4:00 p.m. See section IV, “Public Participation,” for webinar registration information,

participant instructions and information about the capabilities available to webinar participants.

Comments: Written comments and information will be accepted on or before, **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].**

ADDRESSES: To inform interested parties and to facilitate this process, an agenda, a preliminary technical support document, and related briefing materials, are available at: www1.eere.energy.gov/buildings/appliance_standards/standards.aspx?productid=6&action=viewlive.

Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at www.regulations.gov. Follow the instructions for submitting comments.

Alternatively, interested persons may submit comments, identified by docket number EERE-2020-BT-STD-0007, by any of the following methods:

1. *Federal eRulemaking Portal:* www.regulations.gov. Follow the instructions for submitting comments.
2. *E-mail:* ElecMotors2020STD0007@ee.doe.gov. Include docket number EERE-2020-BT-STD-0007 in the subject line of the message.

No telefacsimiles (“faxes”) will be accepted. For detailed instructions on submitting comments and additional information on this process, see section IV of this document.

Although DOE has routinely accepted public comment submissions through a variety of mechanisms, including postal mail and hand delivery/courier, the Department has found it necessary to make temporary modifications to the comment submission process in light of the ongoing COVID-19 pandemic. DOE is currently suspending receipt of public comments via postal mail and hand delivery/courier. If a commenter

finds that this change poses an undue hardship, please contact Appliance Standards Program staff at (202) 586-1445 to discuss the need for alternative arrangements. Once the COVID-19 pandemic health emergency is resolved, DOE anticipates resuming all of its regular options for public comment submission, including postal mail and hand delivery/courier.

Docket: The docket for this activity, which includes *Federal Register* notices, comments, public meeting transcripts, and other supporting documents/materials, is available for review at www.regulations.gov. All documents in the docket are listed in the www.regulations.gov index. However, some documents listed in the index, such as those containing information that is exempt from public disclosure, may not be publicly available.

The docket web page can be found at www.regulations.gov/docket/EERE-2020-BT-STD-0007. The docket web page contains instructions on how to access all documents, including public comments in the docket. See section IV for information on how to submit comments through www.regulations.gov.

FOR FURTHER INFORMATION CONTACT: Mr. Jeremy Dommu, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies, EE-2J, 1000 Independence Avenue, SW., Washington, DC 20585-0121. E-mail: ApplianceStandardsQuestions@ee.doe.gov.

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For further information on how to submit a comment, review other public comments and the docket, contact the Appliance and Equipment Standards Program staff at (202) 287-1445 or by e-mail: *ApplianceStandardsQuestions@ee.doe.gov*.

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I. Introduction

A. Authority

The Energy Policy and Conservation Act, as amended (“EPCA”),¹ authorizes DOE to regulate the energy efficiency of several consumer products and certain industrial equipment. (42 U.S.C. 6291–6317) Title III, Part C² of EPCA added by Pub. L. 95-619, Title IV, section 441(a) (42 U.S.C. 6311-6317, as codified), established the Energy Conservation Program for Certain Industrial Equipment, which sets forth a variety of

¹ All references to EPCA in this document refer to the statute as amended through the Energy Act of 2020, Pub. L. 116-260 (Dec. 27, 2020).

² For editorial reasons, upon codification in the U.S. Code, Part C was redesignated Part A-1.

provisions designed to improve the energy efficiency of certain types of industrial equipment, including electric motors, the subject of this notice. (42 U.S.C. 6311(1)(A))

The Energy Policy Act of 1992 (“EPACT 1992”) (Pub. L. 102-486 (Oct. 24, 1992)) further amended EPCA by establishing energy conservation standards and test procedures for certain commercial and industrial electric motors that are manufactured alone or as a component of another piece of equipment. In December 2007, Congress enacted the Energy Independence and Security Act of 2007 (“EISA 2007”) (Pub. L. 110-140 (Dec. 19, 2007)). Section 313(b)(1) of EISA 2007 updated the energy conservation standards for those electric motors already covered by EPCA and established energy conservation standards for a larger scope of motors not previously covered by standards. (42 U.S.C. 6313(b)(2)) EISA 2007 also revised certain statutory definitions related to electric motors. *See* EISA 2007, sec. 313 (amending statutory definitions related to electric motors at 42 U.S.C. 6311(13))

EPCA further provides that, not later than 6 years after the issuance of any final rule establishing or amending a standard, DOE must publish either a notification of determination that standards for the equipment do not need to be amended, or a notice of proposed rulemaking (“NOPR”) including new proposed energy conservation standards (proceeding to a final rule, as appropriate). (42 U.S.C. 6316(a); 42 U.S.C. 6295(m)(1)) Not later than three years after issuance of a final determination not to amend standards, DOE must publish either a notice of determination that standards for the equipment do not need to be amended, or a NOPR including new proposed energy conservation standards (proceeding to a final rule, as appropriate). (42 U.S.C. 6316(a); 42 U.S.C. 6295(m)(3)(B))

Under EPCA, any new or amended energy conservation standard must be designed to achieve the maximum improvement in energy efficiency that DOE

determines is technologically feasible and economically justified. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(2)(A)) Furthermore, the new or amended standard must result in a significant conservation of energy. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(3)(B))

DOE is publishing this Preliminary Analysis to collect data and information to inform its decision consistent with its obligations under EPCA.

B. Rulemaking Process

DOE must follow specific statutory criteria for prescribing new or amended standards for covered equipment, including electric motors. As noted, EPCA requires that any new or amended energy conservation standard prescribed by the Secretary of Energy (“Secretary”) be designed to achieve the maximum improvement in energy efficiency (or water efficiency for certain products specified by EPCA) that is technologically feasible and economically justified. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(2)(A)) The Secretary may not prescribe an amended or new standard that will not result in significant conservation of energy or is not technologically feasible or economically justified. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(3))

The significance of energy savings offered by a new or amended energy conservation standard cannot be determined without knowledge of the specific circumstances surrounding a given rulemaking. For example, the United States has now rejoined the Paris Agreement and will exert leadership in confronting the climate crisis.³ Additionally, some covered products and equipment have most of their energy consumption occur during periods of peak energy demand. The impacts of these products on the energy infrastructure can be more pronounced than products with

³ See Executive Order 14008, 86 FR 7619 (Feb. 1, 2021) (“Tackling the Climate Crisis at Home and Abroad”).

relatively constant demand. In evaluating the significance of energy savings, DOE considers differences in primary energy and FFC effects for different covered products and equipment when determining whether energy savings are significant. Primary energy and FFC effects include the energy consumed in electricity production (depending on load shape), in distribution and transmission, and in extracting, processing, and transporting primary fuels (i.e., coal, natural gas, petroleum fuels), and thus present a more complete picture of the impacts of energy conservation standards.

Accordingly, DOE evaluates the significance of energy savings on a case-by-case basis. DOE has initially determined the energy savings for the TSL proposed in this rulemaking are “significant” within the meaning of 42 U.S.C. 6295(o)(3)(B).

To determine whether a standard is economically justified, EPCA requires that DOE determine whether the benefits of the standard exceed its burdens by considering, to the greatest extent practicable, the following seven factors:

- (1) The economic impact of the standard on the manufacturers and consumers of the products subject to the standard;
- (2) The savings in operating costs throughout the estimated average life of the covered products in the type (or class) compared to any increase in the price, initial charges, or maintenance expenses for the covered products that are likely to result from the standard;
- (3) The total projected amount of energy (or as applicable, water) savings likely to result directly from the standard;
- (4) Any lessening of the utility or the performance of the products likely to result from the standard;
- (5) The impact of any lessening of competition, as determined in writing by the Attorney General, that is likely to result from the standard;

- (6) The need for national energy and water conservation; and
- (7) Other factors the Secretary of Energy (Secretary) considers relevant.

(42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(2)(B)(i)(I)–(VII))

DOE fulfills these and other applicable requirements by conducting a series of analyses throughout the rulemaking process. Table I.1 shows the individual analyses that are performed to satisfy each of the requirements within EPCA.

Table I.1 EPCA Requirements and Corresponding DOE Analysis

EPCA Requirement	Corresponding DOE Analysis
Significant Energy Savings	<ul style="list-style-type: none"> • Shipments Analysis • National Impact Analysis • Energy Use Analysis
Technological Feasibility	<ul style="list-style-type: none"> • Market and Technology Assessment • Screening Analysis • Engineering Analysis
Economic Justification:	
1. Economic impact on manufacturers and consumers	<ul style="list-style-type: none"> • Manufacturer Impact Analysis • Life-Cycle Cost and Payback Period Analysis • Life-Cycle Cost Subgroup Analysis • Shipments Analysis
2. Lifetime operating cost savings compared to increased cost for the product	<ul style="list-style-type: none"> • Markups for Product Price Analysis • Energy Use Analysis • Life-Cycle Cost and Payback Period Analysis
3. Total projected energy savings	<ul style="list-style-type: none"> • Shipments Analysis • National Impact Analysis
4. Impact on utility or performance	<ul style="list-style-type: none"> • Screening Analysis • Engineering Analysis
5. Impact of any lessening of competition	<ul style="list-style-type: none"> • Manufacturer Impact Analysis
6. Need for national energy and water conservation	<ul style="list-style-type: none"> • Shipments Analysis • National Impact Analysis
7. Other factors the Secretary considers relevant	<ul style="list-style-type: none"> • Employment Impact Analysis • Utility Impact Analysis • Emissions Analysis • Monetization of Emission Reductions Benefits • Regulatory Impact Analysis

Further, EPCA establishes a rebuttable presumption that a standard is economically justified if the Secretary finds that the additional cost to the consumer of purchasing a product complying with an energy conservation standard level will be less than three times the value of the energy savings during the first year that the consumer

will receive as a result of the standard, as calculated under the applicable test procedure.

(42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(2)(B)(iii))

EPCA also contains what is known as an “anti-backsliding” provision, which prevents the Secretary from prescribing any amended standard that either increases the maximum allowable energy use or decreases the minimum required energy efficiency of a covered product. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(1)) Also, the Secretary may not prescribe an amended or new standard if interested persons have established by a preponderance of the evidence that the standard is likely to result in the unavailability in the United States in any covered product type (or class) of performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as those generally available in the United States. (42 U.S.C. 6316(a); 42 U.S.C. 6295(o)(4))

Additionally, EPCA specifies requirements when promulgating an energy conservation standard for a covered product that has two or more subcategories. DOE must specify a different standard level for a type or class of product that has the same function or intended use, if DOE determines that products within such group: (A) consume a different kind of energy from that consumed by other covered products within such type (or class); or (B) have a capacity or other performance-related feature which other products within such type (or class) do not have and such feature justifies a higher or lower standard. (42 U.S.C. 6316(a); 42 U.S.C. 6295(q)(1)) In determining whether a performance-related feature justifies a different standard for a group of products, DOE must consider such factors as the utility to the consumer of the feature and other factors DOE deems appropriate. *Id.* Any rule prescribing such a standard must include an explanation of the basis on which such higher or lower level was established. (42 U.S.C. 6316(a); 42 U.S.C. 6295(q)(2))

Before proposing a standard, DOE typically seeks public input on the analytical framework, models, and tools that DOE intends to use to evaluate standards for the equipment at issue and the results of preliminary analyses DOE performed for the equipment.

DOE is examining whether to amend the current standards for electric motors pursuant to its obligations under EPCA. This notification announces the availability of the preliminary TSD, which details the preliminary analyses and summarizes the preliminary results of DOE's analyses. In addition, DOE is announcing a public meeting to solicit feedback from interested parties on its analytical framework, models, and preliminary results.

C. Deviation from Appendix A

Under 10 CFR 431.4, the provisions of 10 CFR part 430, subpart C, appendix A ("appendix A"), apply to commercial and industrial equipment regulated by DOE. In accordance with section 3(a) of appendix A, DOE notes that it is deviating from the provision in appendix A regarding the pre-NOPR stages for an energy conservation standards rulemaking. Section 6(a)(2) of appendix A states that if the Department determines it is appropriate to proceed with a rulemaking (after initiating the rulemaking process through an early assessment), the preliminary stages of a rulemaking to issue or amend an energy conservation standard that DOE will undertake will be a framework document and preliminary analysis, or an advance notice of proposed rulemaking ("ANOPR"). DOE is opting to deviate from this step by publishing a preliminary analysis without a framework document. A framework document is intended to introduce and summarize the various analyses DOE conducts during the rulemaking process and requests initial feedback from interested parties. DOE issued an early assessment request for information on May 21, 2020 ("May 2020 Early Assessment

Review RFI”) in which DOE identified and sought comment on technological or market changes to help determine whether the existing energy conservation standards for electric motors should be amended. 85 FR 30878. DOE provided a 30-day comment period for the RFI. *Id.* As DOE is intending to rely on substantively the same analytical methods as in the 2014 rulemaking, publication of a framework document would be largely redundant with the published early assessment RFI. As such, DOE is not publishing a framework document.

Section 6(d)(2) of appendix A specifies that the length of the public comment period for pre-NOPR rulemaking documents will vary depending upon the circumstances of the particular rulemaking, but will not be less than 75 calendar days. For this preliminary analysis, DOE has opted to instead provide a 60-day comment period. As stated, DOE requested comment in the May 2020 Early Assessment Review RFI on the analysis conducted in support of the last energy conservation standard rulemaking for electric motors. For this preliminary analysis, DOE has relied on many of the same analytical assumptions and approaches as used in the previous rulemaking and has determined that a 60-day comment period in conjunction with the prior 30-day comment period provides sufficient time for interested parties to review the preliminary analysis and develop comments.

II. Background

A. Current Standards

On May 29, 2014, DOE published a final rule adopting new and amended energy conservation standards for electric motors other than fire pump electric motors, consistent with the efficiency levels (“ELs”) specified in Table 12-12 of National Electrical Manufacturers Association (“NEMA”) Standards Publication MG 1-2011, “Motors and Generators,” and retained the standards for fire pump motors. 79 FR 30934 (“May 2014

Final Rule”). These standards are set forth in DOE’s regulations at 10 CFR 431.25 and are repeated in Table II.1, Table II.2 and Table II.3 (for electric motors starting on June 1, 2016).

Table II.1 Federal Energy Conservation Standards for NEMA Design A, NEMA Design B and IEC Design N Motors (Excluding Fire Pump Electric Motors) At 60 Hz

Motor horsepower/ standard kilowatt equivalent	Nominal full-load efficiency (%)							
	2-Pole		4-Pole		6-Pole		8-Pole	
	Enclosed	Open	Enclosed	Open	Enclosed	Open	Enclosed	Open
1/.75	77.0	77.0	85.5	85.5	82.5	82.5	75.5	75.5
1.5/1.1	84.0	84.0	86.5	86.5	87.5	86.5	78.5	77.0
2/1.5	85.5	85.5	86.5	86.5	88.5	87.5	84.0	86.5
3/2.2	86.5	85.5	89.5	89.5	89.5	88.5	85.5	87.5
5/3.7	88.5	86.5	89.5	89.5	89.5	89.5	86.5	88.5
7.5/5.5	89.5	88.5	91.7	91.0	91.0	90.2	86.5	89.5
10/7.5	90.2	89.5	91.7	91.7	91.0	91.7	89.5	90.2
15/11	91.0	90.2	92.4	93.0	91.7	91.7	89.5	90.2
20/15	91.0	91.0	93.0	93.0	91.7	92.4	90.2	91.0
25/18.5	91.7	91.7	93.6	93.6	93.0	93.0	90.2	91.0
30/22	91.7	91.7	93.6	94.1	93.0	93.6	91.7	91.7
40/30	92.4	92.4	94.1	94.1	94.1	94.1	91.7	91.7
50/37	93.0	93.0	94.5	94.5	94.1	94.1	92.4	92.4
60/45	93.6	93.6	95.0	95.0	94.5	94.5	92.4	93.0
75/55	93.6	93.6	95.4	95.0	94.5	94.5	93.6	94.1
100/75	94.1	93.6	95.4	95.4	95.0	95.0	93.6	94.1
125/90	95.0	94.1	95.4	95.4	95.0	95.0	94.1	94.1
150/110	95.0	94.1	95.8	95.8	95.8	95.4	94.1	94.1
200/150	95.4	95.0	96.2	95.8	95.8	95.4	94.5	94.1
250/186	95.8	95.0	96.2	95.8	95.8	95.8	95.0	95.0
300/224	95.8	95.4	96.2	95.8	95.8	95.8		
350/261	95.8	95.4	96.2	95.8	95.8	95.8		
400/298	95.8	95.8	96.2	95.8				
450/336	95.8	96.2	96.2	96.2				
500/373	95.8	96.2	96.2	96.2				

Table II.2 Federal Energy Conservation Standards for NEMA Design C and IEC Design H Motors At 60 Hz

Motor horsepower/ standard kilowatt equivalent	Nominal full-load efficiency (%)					
	4-Pole		6-Pole		8-Pole	
	Enclosed	Open	Enclosed	Open	Enclosed	Open
1/.75	85.5	85.5	82.5	82.5	75.5	75.5
1.5/1.1	86.5	86.5	87.5	86.5	78.5	77.0
2/1.5	86.5	86.5	88.5	87.5	84.0	86.5
3/2.2	89.5	89.5	89.5	88.5	85.5	87.5
5/3.7	89.5	89.5	89.5	89.5	86.5	88.5
7.5/5.5	91.7	91.0	91.0	90.2	86.5	89.5
10/7.5	91.7	91.7	91.0	91.7	89.5	90.2
15/11	92.4	93.0	91.7	91.7	89.5	90.2
20/15	93.0	93.0	91.7	92.4	90.2	91.0
25/18.5	93.6	93.6	93.0	93.0	90.2	91.0
30/22	93.6	94.1	93.0	93.6	91.7	91.7
40/30	94.1	94.1	94.1	94.1	91.7	91.7
50/37	94.5	94.5	94.1	94.1	92.4	92.4
60/45	95.0	95.0	94.5	94.5	92.4	93.0
75/55	95.4	95.0	94.5	94.5	93.6	94.1
100/75	95.4	95.4	95.0	95.0	93.6	94.1
125/90	95.4	95.4	95.0	95.0	94.1	94.1
150/110	95.8	95.8	95.8	95.4	94.1	94.1
200/150	96.2	95.8	95.8	95.4	94.5	94.1

**Table II.3 Federal Energy Conservation Standards for Fire Pump Electric Motors
At 60 Hz**

Motor horsepower/ standard kilowatt equivalent	Nominal full-load efficiency (%)							
	2-Pole		4-Pole		6-Pole		8-Pole	
	Enclosed	Open	Enclosed	Open	Enclosed	Open	Enclosed	Open
1/.75	75.5	--	82.5	82.5	80.0	80.0	74.0	74.0
1.5/1.1	82.5	82.5	84.0	84.0	85.5	84.0	77.0	75.5
2/1.5	84.0	84.0	84.0	84.0	86.5	85.5	82.5	85.5
3/2.2	85.5	84.0	87.5	86.5	87.5	86.5	84.0	86.5
5/3.7	87.5	85.5	87.5	87.5	87.5	87.5	85.5	87.5
7.5/5.5	88.5	87.5	89.5	88.5	89.5	88.5	85.5	88.5
10/7.5	89.5	88.5	89.5	89.5	89.5	90.2	88.5	89.5
15/11	90.2	89.5	91.0	91.0	90.2	90.2	88.5	89.5
20/15	90.2	90.2	91.0	91.0	90.2	91.0	89.5	90.2
25/18.5	91.0	91.0	92.4	91.7	91.7	91.7	89.5	90.2
30/22	91.0	91.0	92.4	92.4	91.7	92.4	91.0	91.0
40/30	91.7	91.7	93.0	93.0	93.0	93.0	91.0	91.0
50/37	92.4	92.4	93.0	93.0	93.0	93.0	91.7	91.7
60/45	93.0	93.0	93.6	93.6	93.6	93.6	91.7	92.4
75/55	93.0	93.0	94.1	94.1	93.6	93.6	93.0	93.6
100/75	93.6	93.0	94.5	94.1	94.1	94.1	93.0	93.6
125/90	94.5	93.6	94.5	94.5	94.1	94.1	93.6	93.6
150/110	94.5	93.6	95.0	95.0	95.0	94.5	93.6	93.6
200/150	95.0	94.5	95.0	95.0	95.0	94.5	94.1	93.6
250/186	95.4	94.5	95.0	95.4	95.0	95.4	94.5	94.5
300/224	95.4	95.0	95.4	95.4	95.0	95.4		
350/261	95.4	95.0	95.4	95.4	95.0	95.4		
400/298	95.4	95.4	95.4	95.4				
450/336	95.4	95.8	95.4	95.8				
500/373	95.4	95.8	95.8	95.8				

B. Current Process

In its May 2020 Early Assessment Review RFI, DOE stated that it was initiating an early assessment review to determine whether any new or amended standards would satisfy the relevant requirements of EPCA for a new or amended energy conservation standard for electric motors and sought information related to that effort. Specifically,

DOE sought data and information that could enable the agency to determine whether DOE should propose a “no new standard” determination because a more stringent standard: (1) would not result in a significant savings of energy; (2) is not technologically feasible; (3) is not economically justified; or (4) any combination of the foregoing. 85 FR 30878, 30879.

Comments received to date as part of the current process have helped DOE identify and resolve issues related to the preliminary analyses. Chapter 2 of the preliminary TSD summarizes and addresses the comments received.

III. Summary of the Analyses Performed by DOE

For the equipment covered in this preliminary analysis, DOE conducted in-depth technical analyses in the following areas: (1) engineering; (2) markups to determine product price; (3) energy use; (4) life cycle cost (“LCC”) and payback period (“PBP”); and (5) national impacts. The preliminary TSD that presents the methodology and results of each of these analyses is available at www.regulations.gov/docket/EERE-2020-BT-STD-0007.

DOE also conducted, and has included in the preliminary TSD, several other analyses that support the major analyses or are preliminary analyses that will be expanded if DOE determines that a NOPR is warranted to propose amended energy conservation standards. These analyses include: (1) the market and technology assessment; (2) the screening analysis, which contributes to the engineering analysis; and (3) the shipments analysis, which contributes to the LCC and PBP analysis and the national impact analysis (“NIA”). In addition to these analyses, DOE has begun preliminary work on the manufacturer impact analysis. DOE has also identified the methods to be used for the consumer subgroup analysis, the emissions analysis, the

employment impact analysis, the regulatory impact analysis, and the utility impact analysis. DOE will expand on these analyses in the NOPR should one be issued.

A. Engineering Analysis

The purpose of the engineering analysis is to establish the relationship between the efficiency and cost of electric motors. There are two elements to consider in the engineering analysis: (1) the selection of efficiency levels to analyze (*i.e.*, the “efficiency analysis”) and (2) the determination of equipment cost at each efficiency level (*i.e.*, the “cost analysis”). In determining the performance of higher-efficiency equipment, DOE considers technologies and design option combinations not eliminated by the screening analysis. For each equipment class, DOE estimates the manufacturer production cost (“MPC”) for the baseline as well as higher efficiency levels. The output of the engineering analysis is a set of cost-efficiency “curves” that are used in downstream analyses (*i.e.*, the LCC and PBP analyses and the NIA).

DOE converts the MPC to the manufacturer selling price (“MSP”) by applying a manufacturer markup. The MSP is the price the manufacturer charges its first customer, when selling into the equipment distribution channels. The manufacturer markup accounts for manufacturer non-production costs and profit margin. DOE developed the manufacturer markup by examining publicly available financial information for manufacturers of the covered equipment.

See Chapter 5 of the preliminary TSD for additional detail on the engineering analysis.

B. Markups Analysis

The markups analysis develops appropriate markups (*e.g.*, retailer markups, distributor markups, contractor markups) in the distribution chain and sales taxes to

convert manufacturer selling cost (“MSP”) estimates derived in the engineering analysis to consumer prices, which are then used in the LCC and PBP analysis. At each step in the distribution channel, companies mark up the price of the equipment to cover business costs and profit margin.

DOE developed baseline and incremental markups for each actor in the distribution chain. Baseline markups are applied to the price of equipment with baseline efficiency, while incremental markups are applied to the difference in price between baseline and higher-efficiency models (the incremental cost increase). The incremental markup is typically less than the baseline markup and is designed to maintain similar per-unit operating profit before and after new or amended standards.⁴

Chapter 6 of the preliminary TSD provides details on DOE’s development of markups for electric motors.

C. Energy Use Analysis

The purpose of the energy use analysis is to determine the annual energy consumption of electric motors at different efficiencies in representative commercial, industrial, and agricultural consumers, and to assess the energy savings potential of increased electric motor efficiency. The energy use analysis estimates the range of energy use of electric motors in the field (*i.e.*, as they are actually used by consumers). The energy use analysis provides the basis for other analyses DOE performed, particularly assessments of the energy savings and the savings in consumer operating costs that could result from adoption of amended or new standards.

⁴ Because the projected price of products at efficiency levels above the baseline is typically higher than the price of baseline products, using the same markup for the incremental cost and the baseline cost would result in higher per-unit operating profit. While such an outcome is possible, DOE maintains that in markets that are reasonably competitive it is unlikely that standards would lead to a sustainable increase in profitability in the long run.

Chapter 7 of the preliminary TSD addresses the energy use analysis.

D. Life-Cycle Cost and Payback Period Analyses

The effect of new or amended energy conservation standards on individual consumers usually involves a reduction in operating cost and an increase in purchase cost. DOE used the following two metrics to measure consumer impacts:

- The LCC is the total consumer expense of an appliance or product over the life of that product, consisting of total installed cost (manufacturer selling price, distribution chain markups, sales tax, and installation costs) plus operating costs (expenses for energy use, maintenance, and repair). To compute the operating costs, DOE discounts future operating costs to the time of purchase and sums them over the lifetime of the product.
- The PBP is the estimated amount of time (in years) it takes consumers to recover the increased purchase cost (including installation) of a more-efficient product through lower operating costs. DOE calculates the PBP by dividing the change in purchase cost at higher efficiency levels by the change in annual operating cost for the year that amended or new standards are assumed to take effect.

Chapter 8 of the preliminary TSD addresses the LCC and PBP analyses.

E. National Impact Analysis

The NIA estimates the national energy savings (“NES”) and the net present value (“NPV”) of total consumer costs and savings expected to result from amended standards at specific efficiency levels (referred to as candidate standard levels).⁵ DOE calculates

⁵ The NIA accounts for impacts in the 50 states and U.S. territories.

the NES and NPV for the potential standard levels considered based on projections of annual equipment shipments, along with the annual energy consumption and total installed cost data from the energy use and LCC analyses. For the present analysis, DOE projected the energy savings, operating cost savings, equipment costs, and NPV of consumer benefits over the lifetime of electric motors sold from 2026 through 2055.

DOE evaluates the impacts of new or amended standards by comparing a case without such standards (“no-new-standards case”) with standards-case projections. The no-new-standards case characterizes energy use and consumer costs for each equipment class in the absence of new or amended energy conservation standards. For this projection, DOE considers historical trends in efficiency and various forces that are likely to affect the mix of efficiencies over time. DOE compares the no-new-standards case with projections characterizing the market for each equipment class if DOE adopted new or amended standards at specific energy efficiency levels for that class. For each efficiency level, DOE considers how a given standard would likely affect the market shares of equipment with efficiencies greater than the standard.

DOE uses a spreadsheet model to calculate the energy savings and the national consumer costs and savings from each efficiency level. Interested parties can review DOE’s analyses by changing various input quantities within the spreadsheet. The NIA spreadsheet model uses typical values (as opposed to probability distributions) as inputs. Critical inputs to this analysis include shipments projections, estimated product lifetimes, equipment installed costs and operating costs, equipment annual energy consumption, the no-new standards case efficiency projection, and discount rates.

DOE estimates a combined total of 11.9 quads of site energy savings at the max-tech efficiency levels for electric motors. Combined site energy savings at Efficiency Level 1 for all equipment classes are estimated to be 3.3 quads.

Chapter 10 of the preliminary TSD addresses the NIA.

IV. Public Participation

DOE invites public participation in this process through participation in the webinar and submission of written comments and information. After the webinar and the closing of the comment period, DOE will consider all timely-submitted comments and additional information obtained from interested parties, as well as information obtained through further analyses. Following such consideration, the Department will publish either a determination that the standards for electric motors need not be amended or a NOPR proposing to amend those standards. The NOPR, should one be issued, would include proposed energy conservation standards for the products covered by that rulemaking, and members of the public would be given an opportunity to submit written and oral comments on the proposed standards.

A. Participation in the Webinar

The time and date of the webinar meeting are listed in the **DATES** section at the beginning of this document. Webinar registration information, participant instructions, and information about the capabilities available to webinar participants will be published on DOE's website:

www1.eere.energy.gov/buildings/appliance_standards/standards.aspx?productid=6&action=viewlive. Participants are responsible for ensuring their systems are compatible with the webinar software.

B. Procedure for Submitting Prepared General Statements for Distribution

Any person who has an interest in the topics addressed in this notice, or who is representative of a group or class of persons that has an interest in these issues, may request an opportunity to make an oral presentation at the webinar. Such persons may submit such request to *ApplianceStandardsQuestions@ee.doe.gov*. Persons who wish to speak should include with their request a computer file in Microsoft Word, PDF, or text (ASCII) file format that briefly describes the nature of their interest in this rulemaking and the topics they wish to discuss. Such persons should also provide a daytime telephone number where they can be reached.

C. Conduct of the Webinar

DOE will designate a DOE official to preside at the webinar and may also use a professional facilitator to aid discussion. The meeting will not be a judicial or evidentiary-type public hearing, but DOE will conduct it in accordance with section 336 of EPCA (42 U.S.C. 6306). A court reporter will be present to record the proceedings and prepare a transcript. DOE reserves the right to schedule the order of presentations and to establish the procedures governing the conduct of the webinar. There shall not be discussion of proprietary information, costs or prices, market share, or other commercial matters regulated by U.S. anti-trust laws. After the webinar and until the end of the comment period, interested parties may submit further comments on the proceedings and any aspect of the rulemaking.

The webinar will be conducted in an informal, conference style. DOE will present an overview of the topics addressed in the preliminary analysis, allow time for prepared general statements by participants, and encourage all interested parties to share their views on issues affecting this rulemaking. Each participant will be allowed to make a general statement (within time limits determined by DOE), before the discussion of

specific topics. DOE will permit, as time permits, other participants to comment briefly on any general statements.

At the end of all prepared statements on a topic, DOE will permit participants to clarify their statements briefly. Participants should be prepared to answer questions by DOE and by other participants concerning these issues. DOE representatives may also ask questions of participants concerning other matters relevant to this rulemaking. The official conducting the webinar will accept additional comments or questions from those attending, as time permits. The presiding official will announce any further procedural rules or modification of the above procedures that may be needed for the proper conduct of the webinar.

A transcript of the webinar will be included in the docket, which can be viewed as described in the *Docket* section at the beginning of this notice. In addition, any person may buy a copy of the transcript from the transcribing reporter.

D. Submission of Comments

DOE invites all interested parties, regardless of whether they participate in the public meeting, to submit in writing by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN *FEDERAL REGISTER*]**, comments and information on matters addressed in this notification and on other matters relevant to DOE's consideration of amended energy conservations standards for electric motors. Interested parties may submit comments, data, and other information using any of the methods described in the **ADDRESSES** section at the beginning of this document.

Submitting comments via www.regulations.gov. The www.regulations.gov webpage will require you to provide your name and contact information. Your contact

information will be viewable to DOE Building Technologies staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment itself or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any document attached to your comment. If this instruction is followed, persons viewing comments will see only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

Do not submit to *www.regulations.gov* information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (CBI)). Comments submitted through *www.regulations.gov* cannot be claimed as CBI. Comments received through the website will waive any CBI claims for the information submitted. For information on submitting CBI, see the Confidential Business Information section.

DOE processes submissions made through *www.regulations.gov* before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable for up to several weeks. Please keep the comment tracking number that *www.regulations.gov* provides after you have successfully uploaded your comment.

Submitting comments via email. Comments and documents submitted via email also will be posted to *www.regulations.gov*. If you do not want your personal contact information to be publicly viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information in a cover letter. Include your first and last names, email address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments

Include contact information each time you submit comments, data, documents, and other information to DOE. No faxes will be accepted.

Comments, data, and other information submitted to DOE electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, that are written in English, and that are free of any defects or viruses. Documents should not contain special characters or any form of encryption and, if possible, they should carry the electronic signature of the author.

Campaign form letters. Please submit campaign form letters by the originating organization in batches of between 50 to 500 form letters per PDF or as one form letter with a list of supporters' names compiled into one or more PDFs. This reduces comment processing and posting time.

Confidential Business Information. Pursuant to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email two well-marked copies: one copy of the document marked "confidential" including all the information believed to be confidential, and one copy of the document marked "non-confidential" with the information believed

to be confidential deleted. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

It is DOE's policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

V. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this notification of a webinar and availability of preliminary technical support document.

Signing Authority

This document of the Department of Energy was signed on February 23, 2022, by Kelly J. Speaks-Backman, Principal Deputy Assistant Secretary for Energy Efficiency and Renewable Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on February 24, 2022.

Treena V. Garrett,
Federal Register Liaison Officer,
U.S. Department of Energy.

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